



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,846	11/20/2002	Gianni Boscolo	865.41190 X00	2458

20457 7590 04/22/2004

ANTONELLI, TERRY, STOUT & KRAUS, LLP  
1300 NORTH SEVENTEENTH STREET  
SUITE 1800  
ARLINGTON, VA 22209-9889

EXAMINER

VANATTA, AMY B

ART UNIT	PAPER NUMBER
----------	--------------

3765

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/049,846

Applicant(s)

BOSCOLO, GIANNI

Examiner

Amy B. Vanatta

Art Unit

3765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-3, the steps which are being claimed as forming the claimed method are unclear. For example, claim 1 appears to mainly recite structural limitations rather than reciting method steps; i.e. "comprising a carrier nonwoven...and a pulp layer", etc. Also, the method steps are not positively recited, e.g. see claim 1 reciting that the pulp layer is applied to the carrier nonwoven, that the microfiber layer is applied to the carrier nonwoven, everything "is interconnected" etc. Such steps should positively recite the manipulative method step being carried out, such as a step of "applying", "interconnecting", etc. Claims 1-3 should positively recite the method steps in this manner.

In claims 1, 4, and 5, the phrase "such as" renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

In claim 1, the phrase "or the like" renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

In claim 1, the phrase "for example" (see "e.g." in lines 3 and 10) renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). That is, it is unclear whether or not the step of hydraulically needling the nonwoven to consolidate it is being claimed. Likewise, it is unclear whether the meltblown process is being claimed.

Claim 1 is indefinite in reciting "everything" is interconnected (last lines), since it is unclear what structures are encompassed by "everything".

Claim 1 is indefinite in reciting "the consolidated carrier nonwoven" (lines 6 and 9-10), since the carrier nonwoven was not positively recited as being consolidated, but rather the consolidating was only recited in an exemplary manner (see lines 3-4). Similarly, claim 1 is indefinite in reciting "the pulp fibre layer" (line 11), since the pulp layer was not positively recited as comprising fiber, but rather the fiber was only recited in an exemplary manner (see line 5). Likewise, see "the pulp fibre layer" as recited in claim 2 and "the wood pulp layer" as recited in claim 3.

Claim 3 is indefinite in reciting "everything" is subjected to needling, since it is unclear what structures are encompassed by "everything".

Claim 4 recites "the continuous plant", "the subsequent consolidation" (lines 4-5) and "the carrier layer" (last line) without antecedent basis.

In claim 4, the parenthetical recitation "(wood pulp)" renders the claim indefinite because it is unclear whether the limitation within the parentheses is part of the claimed invention.

In claim 4, "and possibly also the fibres of the carrier layer" renders the claim indefinite, because it is unclear whether it is being claimed that the pulp fibers may be connected to the carrier layer, that the microfibers may be connected to the carrier layer or both. Also, the term "possibly" is confusing, and it is suggested, if the limitation is being claimed as optional, that a term such as "optionally" be used instead of "possibly".

In claim 5, the term "it" (line 2) renders the claim indefinite since it is unclear to what structure the term "it" refers.

Claim 5 recites "the composite nonwoven" without antecedent basis.

Claim 5 is confusing in reciting "the above-mentioned water needling device". It is suggested that the term "the" or "said" be used to clarify that this water needling device is the one which was previously disclosed.

In claim 6, it is unclear what is meant by "first of all for pre-consolidating" (line 2). It is unclear whether "first of all" is intended to convey that the element is used for purposes in addition to the pre-consolidating, or whether there are other pre-consolidating devices in addition to this one.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3765

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Skoog et al (US 6,177,370).

Skoog et al disclose a method of producing a composite nonwoven comprising a carrier nonwoven (144), a thin intermediate meltblown layer 148, and a pulp layer (164) applied to the carrier nonwoven, with the intermediate layer between the pulp layer (164) and the carrier nonwoven (144); see Fig. 3. The layers are interconnected by hydrodynamic needling (col. 6, line 35). Skoog discloses that the intermediate layer 148 is a meltblown web, and teaches that the meltblown web has fibers which are attenuated to form "super fine" fibers (col. 2, lines 7-23). This meltblown layer which comprises "super-fine fibers" forms the claimed microfiber layer. A fourth layer (128 or 124) is applied to the wood pulp layer as a cover layer and is interconnected to the other layers by hydrodynamic needling as in claim 3 (see Fig. 3 and col. 6, line 35).

Skoog et al discloses an apparatus as in claim 4, including a spunbond device which forms layer 144 (col. 5, line 28-29), which forms the carrier nonwoven. A meltblowing device forms layer 148 (col. 5, line 29) to apply a fine intermediate layer formed from microfibers. Layer 164 comprises pulp (col. 5, line 36-37) and is formed by a device for forming such a layer and is applied to the meltblown layer (148). Skoog

discloses that a water needling device (col. 6, line 35) connects the layers together. Skoog discloses a layer 124 which is formed by a spunbonded system (col. 5, line 27), forming a cover layer which is attached by the hydrodynamic needler to the other layers as in claim 5.

5. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Austin et al (US 5,413,849).

Austin et al disclose a method of producing a composite nonwoven comprising a carrier nonwoven (8), a thin intermediate layer (16), and a layer 26 which includes pulp (see col. 2, line 58; col. 6, line 34) applied to the carrier nonwoven, with the intermediate layer between the pulp layer (26) and the carrier nonwoven (8). The layers are interconnected by hydrodynamic needling (30). The intermediate layer 16 is a meltblown web, which Austin discloses comprises microfibers (col. 12, lines 45-52). Austin et al disclose an apparatus as in claim 4, including a carding machine (6) forming layer 8, which is the carrier nonwoven. Austin shows a meltblowing device (14) forming the microfiber layer, and a device 24 for forming the pulp layer (i.e. layer 26, which Austin discloses may include pulp). Austin discloses water needling device 30 to connect the layers together.

6. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Watt et al (US 5, 620,785).

Watt et al disclose a method of producing a composite nonwoven comprising a carrier nonwoven (18), a thin intermediate layer (10), and a pulp layer 20 (see col. 6, lines 25-26) applied to the carrier nonwoven, with the intermediate layer between the pulp layer (20) and the carrier nonwoven (18). Watt teaches interconnecting the layers by hydrodynamic needling (col. 9, line 39). The intermediate layer 10 is a meltblown web which comprises microfibers (col. 3, lines 43-44). Watt et al disclose an apparatus as in claim 4, including a carding machine to form layer 18 (col. 5, line 56), a meltblowing device for forming the microfiber layer (col. 3, lines 43-44), and a device for forming the pulp layer (col. 6, lines 16-30). Watt discloses water needling device (col. 9, line 39) to connect the layers together.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Skoog et al (US 6,177,370).

Skoog et al discloses an apparatus as recited in claim 4, and teaches that the carrier nonwoven 144 is a nonwoven web, which is preferably a spunbond web (col. 5, lines 25-29). Thus, although Skoog implies that the nonwoven web 144 could be a nonwoven other than a spunbond web (see, e.g., col. 1, lines 59-65), Skoog does not



Art Unit: 3765

specifically disclose that the web 144 may be a hydroentangled web. Skoog does disclose an apparatus in Fig. 8 in which a carrier nonwoven 620 is a hydroentangled nonwoven. In this apparatus, the carrier nonwoven (620) is pre-consolidated by a water needling device (manifold 670) before it is combined with the other layers of the composite fabric. Skoog discusses the use of the process/apparatus set forth in Fig. 8 with the equipment of the process of Fig. 200 (which is used for making the fabric shown in Fig. 3); see col. 6, lines 33-40 and col. 11, lines 43-65. One having routine skill in the art would recognize that it would be advantageous to use a hydroentangled nonwoven for the carrier nonwoven 144, thus providing a hydroentangling apparatus before the carrier nonwoven 144 is combined with the other layers as in claim 6, in order to provide different fabric properties as is desired for the product's end use, for example for easier degradation of the fabric in water. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a hydroentangling device for the layer 144 before it is combined with the other layers so as to provide a hydroentangled nonwoven as layer 144 in the invention of Skoog et al, such as shown in Fig. 8 of Skoog et al, in order to provide more desirable end product characteristics, such as easier degradation of the fabric in water.

### ***Conclusion***

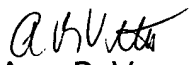
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 3765

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 703-308-2939. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 703-305-1025. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Amy B. Vanatta  
Primary Examiner  
Art Unit 3765